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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,434	03/25/2004	Naoki Ota	Q180-US1	1488

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EXAMINER

KALAFUT, STEPHEN J

ART UNIT	PAPER NUMBER
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1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/811,434

Applicant(s)

OTA ET AL.

Examiner

Stephen J. Kalafut

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 and 15-24 is/are allowed.
- 6) ☒ Claim(s) 6-14 and 25-33 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>25 March 2004</u> . | 6) <input type="checkbox"/> Other: ____. |

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6, 7, 9, 11, 13, 25, 26 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Wallis *et al.* (US 3,646,405).

Wallis *et al.* disclose a feedthrough assembly (10) comprising a cover (16), with a central hole therethrough, an insulator (14) made of a non-glass ceramic (column 19, lines 40-42), also with a central hole, and a pin that includes a shaft (13) and a pinhead (12) in the form of a metal plate, which are each a separate piece of metal. The insulator is brazed to both the cover and the metal plate (column 19, lines 40-45). As seen in figure 4, the ceramic has a top surfaced abutting the underside of the pinhead (and thus brazed thereto) and a bottom surface abutting the top surface of the cover (and thus brazed thereto). The metal plate pinhead extends beyond the diameters of the holes in the cover and insulator. The recitation of intended use, “for an electrochemical cell” does not distinguish. Making the feedthrough would involve providing the cover, insulator and pin, brazing the insulator to the pinhead and cover, and positioning the pin shaft (13) through the two holes.

Claims 30-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Tower (US 6,111,198).

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Tower discloses a feedthrough assembly (20) made by providing a case cover (210) with a hole therethrough, which includes a hole surface (262); providing an insulator (220) having a top surface (221), a bottom surface (222), and an outer surface just inside of, and thus about the diameter of, the case cover hole; providing a pin that includes a shaft (235) and a pinhead (230) with a larger diameter than the shaft; brazing the outer insulator surface to the cover hole (column 6, lines 15-20); placing the pin shaft through the hole in the insulator; and brazing the pin to the insulator (column 6, lines 21-29). Since the braze material is accommodated by chamfered areas (252a, 252b) in the insulator, it contacts both the shaft (235) and pinhead (230).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallis *et al.*

This claim differs from Wallis *et al.* by reciting the diameter of the pin shaft. However, the skilled artisan would desire to dimension the shaft to cooperate with the other components used therewith. Since Wallis *et al.* teaches some of the dimensions of other components (column 4, lines 2-6), determining an appropriate size for the shaft would be within the skill of the ordinary artisan. This claim would thus be obvious over Wallis *et al.*

Claims 8 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallis *et al.* in view of Tower.

Wallis *et al.* do not disclose the shaft of the pin being brazed to the insulator. Tower discloses a feedthrough with a pin having a shaft (235) that is brazed to an insulator (220). See column 6, lines 21-29. The braze material also contacts the head (230) of the pin (figure 2). Because this arrangement reduces cracking (column 2, lines 29-31), it would be obvious to braze the pin shaft and insulator of Wallis *et al.* according to the arrangement shown by Tower.

Claims 10, 14 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallis *et al.* in view of Yoshida *et al.* (US 6,696,199).

These differ from Wallis *et al.* by reciting that the pin shaft and pinhead are one piece of metal, or that the feedthrough is part of a battery. Yoshida *et al.* disclose a battery feedthrough in which the pin shaft (4) and pinhead (4a) are made of one piece of metal (column 8, lines 42-48). Because this arrangement can accommodate distortion due to thermal expansion (column 8, lines 48-55), it would be obvious to make the pin shaft and pinhead of Wallis *et al.* from one piece of metal, as taught by Yoshida *et al.* Because Wallis *et al.* teach their feedthrough as useful for electronic components (column 2, lines 57-60), of which batteries are a type, it would be obvious to use the feedthrough of Wallis *et al.* in the battery of Yoshida *et al.* The battery of Yoshida *et al.* also includes positive and negative electrodes, and an electrolyte (column 6, lines 7-17), in the case (2) thereof (column 5, lines 55-61).

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Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida *et al.* in view of Tower.

Yoshida *et al.* is applied for its disclosure of a feedthrough for use in batteries, where the pin (4) is used as the positive terminal, and is thus coupled to one of the electrodes. Tower is applied for its feedthrough design, which provides good conductivity while reducing the risk of cracking (column 2, lines 29-31). For this reason, it would be obvious to use the feedthrough of Tower in the battery of Yoshida *et al.*

Claims 1-5 and 15-24 are allowed. The feedthrough assembly in which separate portions of the bottom surface of the insulator are brazed to the case cover and pinhead, and in which the bottom and outer surfaces of the insulator are brazed to the case cover, are not disclosed by the prior art, cited either herein or by applicants.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bro *et al.* (US 4,233,372) disclose a battery feedthrough with brazing. Knappen *et al.* (US 7,145,076) disclose a feedthrough similar to that of present claim 15, but is filed too recently to be applicable. Mizuno *et al.* (US 7,029,790), Fong *et al.* (US 6,673,489) and Kim *et al.* (US 6,509,115) disclose feedthrough assemblies with pinheads.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the insulator brazed to both on its

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outer surface to the cover hole, and on its bottom surfaces to the top surface of the cover, as recited in claims 15-24, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The disclosure is objected to because of the following informalities: The drawing numerals 20 (figures 1 and 2); and 51, 54 and 55 (figure 5) are not found in the specification. Appropriate correction is required.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Kalafut whose telephone number is 571-272-1286. The examiner can normally be reached on Mon-Fri 8:00 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

sjk

STEPHEN J. KALAFUT
PRIMARY EXAMINER
GROUP 1700

